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Volume II

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Document 15.1 Roof Access

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Recommended for approval by the ES&H Working Group

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New document or new requirements

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- ☐ New document
- ☒ Major requirement change
- ☐ Minor requirement change

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15.1

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* Major revision

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15.1

Roof Access

1.0 Introduction

Laboratory and non-Laboratory personnel are often required to access the roofs of LLNL structures to perform various tasks, e.g., collecting samples; installing equipment; and conducting routine maintenance, repairs, and modifications. The majority of building ventilation equipment at LLNL is mounted on, or exhausts to, the roof area of LLNL structures. The Roof Access Program, described in this document, is designed to identify and control rooftop facility hazards.

This document contains:

- Requirements for accessing the roofs of all structures owned or operated by LLNL at Livermore and Site 300.
- Methods for accessing the roofs of LLNL structures.
- Responsibilities of individuals who manage or access the roofs of LLNL structures.

The requirements in this document shall be used as a minimum. Any deviation from the requirements in this document shall be processed in accordance with Document 2.3, "LLNL Exemption Process," in the *ES&H Manual*. All activities and individuals who require access to the roofs of LLNL structures shall comply with the requirements in this document. These requirements apply any time that individuals are required to access the roof of a LLNL structure.

This document revises a previously existing roof access classification system and will require some time for implementation. Changes to work practices and controls shall begin upon approval of this document by treating all formerly Type A and B roofs as Restricted-Access roofs and Type C roofs as General-Access roofs using the requirements of this document. Placement of signs and development of procedures for safeguarding hoods, gloveboxes and hazard generating devices prior to accessing restricted-access roofs shall be completed within 1 year of this document becoming effective. Changes to safety documents shall be made during the regular review cycle of these documents, e.g. the 3-year cycle for update of FSPs. Additional implementation guidance is found in Sections 3.1 to 3.1.2.

2.0 Hazards

Personnel accessing facility roofs may be exposed to various hazards. For example, rooftop stacks have the potential to exhaust gases, fumes, and particles from chemical hoods, glove boxes, hot water boilers, and building sewer systems. In addition, because roof work may impact hazard controls resulting in the temporary loss of room, hood, or glove box ventilation, building occupants who fail to follow the requirements of this document during roof work may also be exposed to such hazards.

Other potential hazards include falling through skylights or from roofs or access ladders and being exposed to ionizing and non-ionizing radiation, electrical shock, moving machinery, shrapnel from experiments, or contamination from previous operations or experiments.

3.0 Controls for Roof Access

3.1 Roof Classifications

There are two roof-access classifications for LLNL buildings, Restricted-Access and General-Access. Criteria for classifications are given in Appendix A. A graded approach was used to establish the classifications, which are described below:

Restricted-Access Roofs. A facility's roof is designated as "restricted-access" because exposure to hazardous materials or harmful physical agents exceeding accepted criteria or unsafe conditions may occur. Before accessing a restricted-access roof, planned work shall be reviewed, a Restricted-Access Roof Permit (see Appendix B) shall be obtained, and a sign shall be placed on the hoods, gloveboxes, and hazard generating equipment which may generate exposure to workers on the roof in such a way that accidental usage of such equipment would be highly unlikely (see Appendix A and Fig. A-1).

General-Access Roofs. A facility's roof is designated as "general-access" when only ordinary hazards associated with working at heights or with machinery are present. Verbal approval from the facility manager, facility point of contact (FPOC), or designee is required to access a roof designated as "general access."

The following factors, though not all inclusive, are important and should be considered before determining the classification of a roof:

- Experiments or processes in the facility that may pose a danger to workers on the roof (e.g., those involving toxic or radioactive materials, radiation-generating devices, chemicals, explosives, or pressure).

- Possible exposure of workers to hazardous effluents from nearby (upwind) facilities.
- Presence of hazardous material on or in the roof.
- The types, quantity, and congestion of roof-mounted equipment; accessibility of the roof; and the level of difficulty/hazard in applying standard maintenance techniques.

Roof access classifications are determined by the facility manager, FPOC, and the ES&H Team leader and are reviewed annually or whenever a change to materials or processes that might impact the hazard level on the roof is made. Classifications for LLNL buildings are kept by the ES&H Team providing support for the building. To obtain a copy, contact the ES&H Team health and safety technician for the building. For a specific building's roof classification, ask the FPOC. All roof access points (e.g. ladders, stairs, etc.) shall be posted to indicate the roof classification. Copies of full-size roof access and caution signs discussed in this document may be downloaded by clicking on the appropriate sign and are found in Appendix C.

3.1.1

Prior to implementation of the system with two roof access classifications types in this ES&H Document, three roof access classifications were used at LLNL, Types A, B and C. General-Access Roofs are directly equivalent to the former Type C roofs. Types A and B roofs were restricted and limited access respectively. In practice there was little difference between the hazard control procedures for Types A and B roofs, so they were combined into a single Restricted-Access Roof category in this document.

3.1.2

Transition to the two roof access classifications system will necessitate the revision of safety documents (e.g. FSPs) and signs as well as work practices and controls. Changes to work practices and controls shall begin upon approval of this document by treating all formerly Type A and B roofs as Restricted-Access roofs and Type C roofs as General-Access roofs using the requirements of this document. Placement of signs and development of procedures for safeguarding hoods, gloveboxes and hazard generating devices prior to accessing restricted-access roofs required by this document shall be completed within 1 year of this document becoming effective. Changes to safety documents shall be made during the regular review cycle of these documents, e.g. the 3-year cycle for update of FSPs. Priority should be given to updating documentation of formerly Type A and B roofs over that for formerly Type C roofs.

3.2 General Access Roof Controls

The following controls are to be applied to ensure worker safety during all work requiring roof access. Section 4.0 describes responsibilities for implementing these controls.

- All potential hazards of roof access shall be identified, including hazardous materials in or on a roof (or roofing material) and building operations that may pose hazards to roof access personnel, and a roof-access classification shall be established.
- Appropriate safety plans and procedures shall be established before each roof access activity.
- Individuals accessing roofs shall be informed of all hazards, procedures, or unusual situations related to each building.
- Safe egress and access routes shall be established.
- Ladders of fixed and portable equipment shall be inspected.
- Locations of safety barriers, lanyards, or slide-wire attachments for fall protection shall be determined.
- Protective equipment, including garments, shall be identified.
- All building materials or equipment removed from roofs that is potentially contaminated shall be controlled, e.g., by swiping and analysis prior to removal from an area.

3.3 Restricted Access Roof Controls

In addition to controls listed for access to General Access Roofs, the following additional controls shall be implemented for Restricted Access Roofs.

- A hazard evaluation, using an Integration Work Sheet (IWS), of operations and systems in the facility that may affect worker safety on the roof shall be developed.
- An approved Restricted -Access Roof Permit shall be completed. Individuals requesting access, the FPOC (or designee), and the health and safety technician shall complete the appropriate sections of the permit. A Restricted-Access Roof Permit can be modified only after the FPOC (or designee), health and safety technician, and individual requesting access have discussed and agreed to the change. Completed permits shall be retained by the ES&H Team, for one year.

- Caution signs that restrict hazard generating work within the building shall be placed on hoods, gloveboxes and equipment during the roof access period and promptly removed when work is complete. FPOCs (or designees) and ES&H Team personnel shall predesignate such equipment. Representative signs are shown in Fig. 1. These signs are to be posted on all equipment with any hazard potential for roof access workers or building employees. Signage must be posted on the equipment in such a way that the work area is clearly labeled and accidental usage of such equipment would be highly unlikely. A yellow chain, with a suspended sign that can be draped across the hood face, glove position or hazard producing device control panel is recommended.
- A Sign In/Out Procedure shall be established such as a logbook, white board, or chalkboard for each worker to sign in and out when accessing or vacating rooftops. The sign in/out device shall be placed at the roof-access point or other central location so that no one is inadvertently locked onto a roof.
- Positive measures to control unauthorized access to restricted-access roofs shall be established (e.g. locked doors, ladder locks, etc.).

3.4 Procedure for Safeguarding Hoods Prior to Accessing Roofs

Each facility with a Restricted-Access Roof shall include in its safety plans a procedure to assure that hoods, gloveboxes and hazard generating devices are safeguarded prior to roof access work being conducted. The procedure shall include the following elements:

- Labeling system for all roof stacks identifying associated hoods, gloveboxes and hazard generating devices.
- Process for ensuring all hoods, gloveboxes and hazard generating devices are posted during roof access (none missed)
- Process for ensuring notification is made to all building residents and workers for each day of a roof access condition
- Process to ensure that hazardous materials left within hood and glovebox during a roof access condition are secured to prevent exposure to roof access personnel and room occupants
- Process to verify controls are in place including conducting a walkthrough inspection by roof access personnel prior to roof access. FPOC or H&S Tech must accompany any access to labs.
- Process to assure no user access to the hoods, gloveboxes or hazard generating devices during a roof access condition (even to remove something) without H&S Tech concurrence and presence.



WORKERS ON ROOF
DO NO WORK IN THIS HOOD/GLOVEBOX!

Roof workers may be exposed to hazardous exhaust stack emissions.
This hood may not be working and may not protect you.

This sign shall only be removed by the Facility Point Of Contact (or designee), who may be reached at Ext. _____ for additional information.

Date: _____

Signature of Facility Point of Contact or designee:



Figure 1. Caution sign for roof access work. Click on sign to download a full size copy.

- Process to assure ready accessibility of FPOC and designee's contact information for roof access personnel at all times, including beeper numbers.
- Roof access hazard control requirements briefing for all building residents
- Roof access control program training for FPOCs and designees.

3.5 Authorization Criteria for Roof Access

The following factors, though not all inclusive, are important and should be considered before granting roof access:

- Weather and meteorological conditions. For example, a worker downwind of a stack may be exposed to much higher levels of airborne contaminants than someone upwind. Weather conditions, such as temperature inversions that may cause stack effluents to be blown back down towards the roof may make roof access inappropriate.
- Emissions from the exhaust ventilation systems of adjacent buildings.
- The type and availability of safety equipment necessary to access the roof safely.
- Route and location restrictions to limit unnecessary worker exposure to potential hazards.

The FPOC (or designee) shall approve, and (in the case of a restricted-access roof) the area ES&H Team shall concur with, the conditions under which the roof may be accessed safely. Under no circumstances shall anyone access a roof for routine operations without first obtaining approval from the FPOC or designee. Authorization for access to a Restricted-Access Roof shall be documented on a Restricted- Access Roof Permit shown in Appendix B.

3.6 Accessing LLNL Roofs

To the greatest extent possible, work requiring roof access will be conducted during each facility's regularly scheduled Maintenance Window. However, from time to time it will be necessary to schedule maintenance or repairs between windows (i.e. Non-Routine Maintenance), and it is recognized that occasional Emergency Repairs become necessary with little or no advance notice (e.g. a fan failure). Roof access activities will be conducted to balance the need to minimize interference with activities within the facility with the over-riding need to maximize the safety of workers who must access the roof. The procedures outlined in Sections 3.6.1 to 3.6.3 shall be followed to achieve this balance. Alternative timelines and permit authorization periods may be established between the FPOC and roof access personnel.

3.6.1 Maintenance Window Roof Access

The Plant Engineering Department's Maintenance Window Program is designed so that required routine maintenance is performed on a facility within a pre-agreed-upon time frame. The program requires close coordination and cooperation between facility owners, building residents, and maintenance and operations crafts personnel.

A Restricted- Access Roof Permit issued during a Maintenance Window covers all the crafts working on the restricted-access roof for the full duration of the Maintenance Window. Daily reminders of the roof access condition shall be provided to building occupants.

To ensure the safety of crafts personnel involved in a Maintenance Window effort, all the control requirements of this document shall be followed when issuing Restricted- Access Roof Permits during Maintenance Windows.

3.6.2 Non-Routine Maintenance Roof Access

Non-Routine Maintenance activities that require roof access will be scheduled with as much advance notice as possible to allow facility occupants to schedule necessary shutdown of their activities with as little operational impact as possible. A permit's duration is to be agreed to by the FPOC (or designee) or facility manager and the roof access work supervisor, and concurred with by the ES&H Team.

In all cases, it is the facility management's responsibility to ensure that facility personnel are aware when the Restricted- Access Roof Permit is in effect.

3.6.3 Emergency and Off Hours Roof Access

For emergency or "off hours" (Monday–Thursday, 5:00 p.m. to 7:00 a.m.; 5:00 p.m. Friday to 7:00 a.m. Monday; and Lab holidays), access to facility roofs contact the Hazards Control Building or Off-Shift Health and Safety Technician via the Fire Department dispatcher (ext. 2-7595) and make all reasonable attempts to contact the appropriate FPOC for the required review and approval.

The state of all laboratories and rooms with hazardous exposure potential shall be checked (e.g., for ongoing processes or experiments) before emergency roof access is granted. Whenever a Restricted Roof Access Permit is in effect during off hours, a representative from the Hazards Control Department shall tour the facility twice during each 8-hour shift to ensure conditions remain stable. Any potentially hazardous situation discovered shall be resolved prior to roof access.

3.7 Response to Emergency or Abnormal Conditions

The following conditions require prompt action by individuals who work on roofs.

- General facility evacuation; responses to fires, spills, or critical situations; or the release of toxic material.
- Exposure to materials inside ventilation ducts, sudden illness, job-related injuries, or other situations that require emergency response.
- Severe weather conditions.

Should such conditions or any other situation require an emergency response, workers shall immediately call the emergency dispatcher (911 or 925-447-6880 from a cell phone). The FPOC (or designee) shall be notified of all situations that warrant an emergency response.

4.0 Responsibilities

General responsibilities for all workers are described in Document 2.1, "Laboratory and ES&H Policies, General Worker Responsibilities, and Integrated Safety Management," in the *ES&H Manual*. Specific responsibilities regarding roof access and working on a roof are listed under each title.

4.1 Roof Access Requesters

In accordance with Sections 3.5 and 3.6, workers who need to access the roofs of LLNL facilities shall do the following (roof access requests from subcontract workers shall be made by the LLNL construction manager or inspector):

BEFORE ROOF ACCESS WORK

- Complete the appropriate section of the Restricted-Access Roof Permit (see Appendix B), if applicable.
- Obtain FPOC or alternate's approval prior to beginning work on roof.
- Review the Restricted -Access Roof Permit, hazards associated with the building, and the roof access procedures with all individuals accessing the roof.
- Use fall protection, as required, when working within six feet of the roof's edge if no barriers are present. Caution must be exercised when working near roof skylights not protected by barriers, covers or screens.

DURING ROOF ACCESS WORK

- Discontinue work and obtain a new Restricted-Access Roof Permit if a change in activity or in the scope or location of work is necessary.
- Ensure that all elements of a safety plan, permit, or IWS to control hazard on the roof are complied with.
- Obtain prior approval from the FPOC (or designee) before removing any building materials or debris.
- Ensure that all workers leave the roof and report to the assembly point or the FPOC (or designee) in the event of an emergency or abnormal condition.
- Notify the FPOC (or designee) if the area is to be temporarily vacated for more than 1 hour.
- Notify the FPOC (or designee) when the work is completed.

4.2 Facility Manager or Facility Point of Contact

The facility manager, FPOC, or designee shall do the following:

BEFORE ROOF ACCESS WORK

- Request that a health and safety technician review proposed activities for roof-access requirements, the necessary safety controls, and the type of signs required.
- Determine, with the concurrence of the ES&H Team, the locations (e.g., rooms and lab hoods) within the building where "Caution—Workers on Roof" signs are required to be posted. (Caution signs are required on all hoods, gloveboxes, rooms, or equipment that may pose any worker exposure hazard. Signage must be posted on the equipment in such a way that the work area is clearly labeled and accidental usage of such equipment would be highly unlikely.
- Ensure that known hazards such as hazardous materials on or in roof materials and unprotected skylights are addressed in the IWS for the work before a Restricted-Access Roof Permit is issued.
- Ensure that the correct signs are posted and that the appropriate building personnel are notified, preferably by personal contact.
- Notify the Protective Force Division of roof-access activity, as required by building, facility or Protective Forces Division requirements.

- Inform personnel who are to work on roofs
 - How to respond properly to building-specific hazards and to evacuation alarms.
 - Where to assemble so that they can be accounted for if the building is evacuated.

DURING ROOF ACCESS WORK

- Ensure that building residents are aware when a Restricted-Access Roof Permit is in effect; that they observe posted signs and restrictions; and are aware of roof-access procedures.
- Verify that
 - Anyone who accesses a Restricted-Access Roof has a Restricted-Access Roof Permit.
 - Anyone who accesses a General-Access Roof has verbal authorization.
- Verify that required safety barriers or fall-protection equipment are used, as necessary.
- Assure control of all potentially contaminated building materials or equipment that is removed from service.
- Maintain the roof-access Sign In/Out Procedure for restricted-access roofs.

GENERAL, ONGOING RESPONSIBILITIES

- Maintain a list of all systems present in the facility that could affect workers on the roof (i.e., hoods or other ventilation systems that could exhaust hazardous materials to the roof, microwave sources, pressure systems or other hazard generating devices).
- Be aware of the hazards in all areas of the roof, including hazardous material on or in the roof itself. If the presence of hazardous material is suspected, require that appropriate tests be performed to characterize the material before a Restricted-Access Roof Permit is issued.
- Establish positive measures, such as barrier chains or locked doors, to control access to Restricted-Access Roofs.
- Ensure that, for the purposes of this document, individuals designated as “back-up” to the FPOC with authority to sign the Restricted Roof Access Permit and Hood/Glovebox Caution sign are familiar with the contents of this document and the FPOC responsibilities listed within it.
- Establish a method for informing building occupants when workers are on the roof.

- Determine the facility roof-access classification with support from the ES&H Team.
- Notify the area ES&H Team of any changes in operations or materials used in the facility that may require reevaluation of the roof-access classification.
- Notify the Protective Force Division of any changes to roof-access activities that may require notification of the Protective Force Division.

4.3 ES&H Team

The ES&H Team for the area shall do the following:

BEFORE ROOF ACCESS WORK

- When prepared, review the IWS, safety plan, and Restricted -Access Roof Permit for completeness and to ensure that the proposed roof access controls will prevent exposure to any hazardous materials present and assure that the work can be accomplished safely.
- Determine the requirements for each Restricted-Access Roof Permit and the precautions for potential hazards at the facility, including hazardous material on or in the roof.
- Specify any special protective clothing or safety devices needed during roof access, as requested.
- Determine a safe route to the work area on the roof.

DURING ROOF ACCESS WORK

- Provide health and safety oversight of work activities.
- Survey or swipe equipment as appropriate prior to removal.
- Tour each roof at least twice every eight hours when a Restricted-Access Roof Permit is in effect during off hours.

GENERAL, ONGOING REQUIREMENTS

- If the presence of hazardous material on or in the roof is known or suspected, notify the facility manager, FPOC or designee.
- Ensure that the appropriate member of the area ES&H Team investigates concerns about exposure to hazardous or radioactive materials or any other ES&H concern that arises.
- Ensure that the Hazards Control off-shift health and safety technicians receive orientation on roof access procedures.

- Conduct orientations on roof-access requirements for Plant Engineering, other service organizations, service vendors, contractors, and building personnel upon request.
- Retain a copy of the Restricted-Access Roof Permit for one year.
- Provide an annual evaluation of the roof-access classification to the facility manager for LLNL buildings that the ES&H Team supports, as requested by the FPOC.
- Reevaluate the roof-access classification of a facility, as requested, whenever the facility's operations change.
- Identify locations where safety barriers, lanyards, or slide-wire attachments are needed for infrequent tasks performed within 6 ft of a roof edge if there is a hazard of falling from heights of 6 ft or more.
- Inspect roof access ladders to ensure compliance with Occupational Safety and Health Administration (OSHA) requirements.

4.4 Building Occupants

Building occupants shall do the following:

DURING ROOF ACCESS WORK

- Comply with the required signs posted on hoods and rooms.
- Not resume work on equipment or in locations where signs are posted until notified or until the signs have been removed by an authorized individual.
- Ensure that chemicals, materials, and processes located inside hoods and exhaust enclosures are in a condition that does not present a hazard to personnel on the roof, as specified in Section 3.4, and in accordance with guidance from the ES&H Team.
- Ensure that automatically actuated research equipment (e.g., radiation-generating devices, gas purge systems, and other non-manually-activated sampling or testing devices) is configured to prevent unintended or automatic operation leading to personnel exposure on roofs.

GENERAL, ONGOING RESPONSIBILITIES

- Be familiar with, understand, and comply with roof-access procedures.

5.0 Work Smart Standards

DOE O 440.1A, "Worker Protection Management for DOE Federal and Contractor Employees," Attachment 2, "Contractor Requirement Document," Sections 1–11, 13–18 (delete 18.a), 19 (delete 19.d.3), and 22.

Public Law 91-596 § (5)(a)(1), OSHA General Duty Clause.

6.0 Resources for More Information

6.1 LLNL Contacts

Questions or requests for additional information regarding any aspect of this document should be directed to the following, as necessary:

- Facility managers.
- FPOCs.
- ES&H Teams.

6.2 Lessons Learned

For lessons learned applicable to working on a roof, refer to the following Internet address:

http://www-r.llnl.gov/es_and_h/lessons/lessons.shtml

Appendix A

Roof Classification Criteria and Signs

Discipline	Restricted Access	General Access
Health Physics	The potential for external or internal exposure above background. Potential contamination levels exceeding those in Appendix D of Document 20.2, "LLNL Radiological Safety Program for Radioactive Materials," in the <i>ES&H Manual</i>	No radiation or contamination levels exceeding background
Industrial Hygiene	Any potential for exposure above background levels that may be a nuisance or mildly irritating. Facilities with special emergency evacuation procedures	No exposure above background levels Egress patterns followed in an emergency
Industrial Safety	Special industrial safety concerns such as unprotected skylights, unprotected openings, and slopes > 10 degrees where conditions present a threat to health and safety Microwave/lasers	No special industrial safety concerns other than routine safety requirements for working on elevated surfaces
Explosives Safety	Restricted access during explosive processing and/or testing activities	No explosives work done.

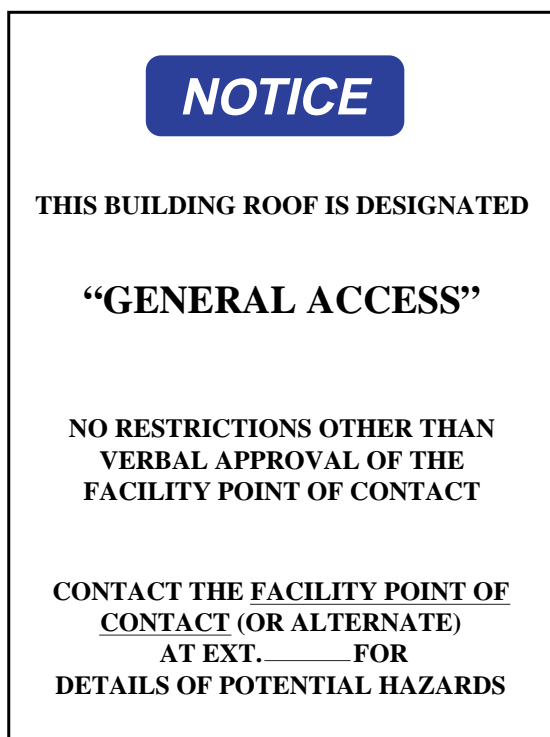


Figure A-1. Roof-access signs for general- and restricted-access roofs.

Appendix B

LLNL Restricted Roof Access Permit

SECTION I <i>(To be completed by roof requester, use additional sheets as necessary)</i>
Roof access requester: _____
Additional individuals: _____
Building number: _____ Date: _____ Time: _____
Reason for roof access: _____
IWS (attached) and other applicable documents: _____
Area of roof to be accessed: _____
Equipment to be worked on: _____
Roof area restrictions: _____
SECTION II <i>(To be completed by the ES&H Team, use additional sheets as necessary)</i>
Expiration time _____ ES&H Team number: _____
Date/time authorization reviewed: _____
Hazards: _____
Special safety equipment required: _____
SECTION III <i>(To be completed by the facility point of contact or designee)</i>
Signs placed on hoods/gloveboxes? Yes: _____ No: _____
Signs placed on entrances/room? Yes: _____ No: _____
Signs removed? Date: _____ Time: _____
Equipment shut down: _____
Signatures
Roof access requester: _____
ES&H Team concurrence: _____
Facility point of contact (or designee) approval: _____

The ES&H Team health and safety technician shall keep a copy of the completed form for one year. See the reverse side for definitions of the terms used on this permit.

The following is an explanation of the terms and definitions as used in the Restricted-Access Roof Permit.

Additional individuals	Names of other individuals also accessing the roof under this permit.
Area of the roof to be accessed	Description of the roof area where personnel intend to work. This can either be a part of or the entire roof. Changes to the work area require a new Restricted-Access Roof Permit.
Building number	Building number of the roof to be accessed.
Date / time	Date and time of roof access.
Date / time authorization reviewed	Date and time the ES&H Team reviewed the permit authorization.
Equipment shut down	Either the equipment number or another description of the equipment that was shut down to perform roof work. If no equipment was shut down, write "N / A."
Equipment to be worked on	Description of equipment to be worked on.
Expiration time	Time when permit to access roof expires.
Facility point of contact approval	Signature of the facility point of contact, facility manager, or designee. Signature of the facility point of contact grants approval of roof access.
Hazards Control concurrence	Signature of the area ES&H Team leader or designee.
Hazards	Description of hazards explained to personnel accessing the roof.
IWS and other applicable documents	List the IWS number and other safety-related documents (e.g., safety plans) that are applicable to the proposed work.
Reason for roof access	The purpose for accessing the roof (e.g., to change belts on fans or filters). Include a description of the equipment on which maintenance or repair will be performed.

Restricted-Access roof	A building roof where exposure exceeding accepted criteria or unsafe conditions (see Appendix A) may occur.
Roof access requester	Name of individual needing access to the roof.
Roof access requester signature	Signature of the individual who will access the roof.
Roof area restrictions	Areas that are designated as restricted because of potential hazards.
Signs placed on entrances/room	Room numbers where signs are placed explaining that roof work is being conducted.
Signs placed on hoods	The signs placed on hoods explaining that roof work is being conducted.
Signs removed: date/time	Date and time that the signs explaining the roof work were removed from the hoods and rooms.
Special safety equipment required	Specify if fall protection, safety glasses, respirators, gloves, coveralls, or any other personal protective equipment are required.

Appendix C

Full Sized Roof Classification and Caution Workers on Roof Signs

For *ES&H Manual* user convenience, full size copies of the signs specified in this document are found on the following pages.



WORKERS ON ROOF

DO NO WORK IN THIS HOOD/GLOVEBOX!

Roof workers may be exposed to hazardous exhaust stack emissions.
This hood may not be working and may not protect you.

This sign shall only be removed by the Facility Point Of Contact (or designee), who may be reached at Ext. _____ for additional information.

Date: _____

Signature of Facility Point of Contact or designee:





CAUTION

THIS BUILDING ROOF IS DESIGNATED

“RESTRICTED ACCESS”

**REQUIRES ROOF ACCESS PERMIT
BEFORE WORK CAN BE PERFORMED**

**CONTACT THE FACILITY POINT OF
CONTACT (OR ALTERNATE)
AT EXT. _____ FOR
DETAILS OF POTENTIAL HAZARDS**

NOTICE

THIS BUILDING ROOF IS DESIGNATED

“GENERAL ACCESS”

**NO RESTRICTIONS OTHER THAN
VERBAL APPROVAL OF THE
FACILITY POINT OF CONTACT**

**CONTACT THE FACILITY POINT OF
CONTACT (OR ALTERNATE)
AT EXT. _____ FOR
DETAILS OF POTENTIAL HAZARDS**